Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of claims:

Claims 1-24 (canceled)

1   **Claim 25 (currently amended):** A process for measuring

2 three-dimensional objects in a three-dimensional

3 environment, comprising the steps of:

4   taking at least one image of said environment by at

5 least one camera;

6   detecting discontinuities of appearance in the image;

7   relating said discontinuities with geometric contours,

8 said contours having positions and shapes in the image

9 which are defined by parameters including numerals;

10   matching said geometric contours with said

11 discontinuities by adjusting said parameters;

12   numerically relating said geometric contours with

13 geometric objects in the three-dimensional environment,

14 three-dimensional positions and volume shapes of said

15 geometric objects in the three-dimensional environment

16 being defined by three-dimensional parameters including

17 numerals;

18   estimating said three-dimensional positions and volume

19 shapes of said geometric objects in the three-dimensional

20 environment in computing geometric projections of said

21 geometric objects onto said at least one image according to

22   a match between said projection and said geometric

23   contours; and,

24   creating a representation of the three-dimensional

25   environment, said representation comprising said geometric

26   objects, according to the parameters defining the positions

27   and shapes of said geometric objects.

1   **Claim 26 (previously presented):** The process

2   according to claim 25, characterized in that the geometric

3   contours include dots, straight lines, ellipses, and the

4   objects include circles, cylinders, straight lines and

5   dots.

1   **Claim 27 (previously presented):** The process

2   according to claim 26, characterized in that the parameters

3   include plane Cartesian coordinates, angles and lengths.

1   **Claim 28 (currently amended):** The process according

2   to claim 25, characterized in that said at least one image

3   [[in]]is converted into an image of a potential function

4   computed on pixels of said at least one image, the

5   potential function giving extreme values at said

6   discontinuities.

1 **Claim 29 (previously presented):** The process

2 according to claim 28, characterized in that the potential

3 function includes a term taking account of areas with very

4 low intensity of gray on the images.

1 **Claim 30 (previously presented):** The process,

2 according to claim 25, wherein said representation

3 comprises a position of said at least one camera.

1 **Claim 31 (previously presented):** The process

2 according to claim 30, wherein said geometric projections

3 are determined from the position of said camera and

4 positions of said geometric objects in the representation.

1 **Claim 32 (previously presented):** The process

2 according to claim 25, wherein the representation initially

3 comprises information on at least the positions and shapes

4 of said geometric objects which is inputted manually or

5 from a computer description file, and the representation is

6 created in progressively amending said information so that

7 the match between the projection of said geometric objects

8 and said geometric contours of said at least one image is

9 improved.

1 **Claim 33 (currently amended):** The process according

2 to claim 25, wherein a plurality of said images is taken,

3 and said representation of the three dimensional

4 environment is amended in repeating the process for each of

5 said images <u>using numerical adjustment of the parameter</u>.

1 **Claim 34 (previously presented):** The process

2 according to claim 33, wherein said representation of the

3 three-dimensional environment in amended in amending the

4 positions and shapes of said geometric objects for each of

5 said images.

1 **Claim 35 (currently amended):** The process according

2 to claim 33, wherein said representation of the

3 three-dimensional environment is amended in including said

4 geometric objects into <u>and camera position</u> said

5 representation <u>and</u> in repeating the process for different

6 ones of said images.

1 **Claim 36 (new):** The process according to claim 33,

2 wherein a geometric projection of the contour of the three-

3 dimensional object is performed on each new image before

4 detecting discontinuities of appearance in the new image.

1   **Claim 37 (new):** The process according to claim 35,

2   wherein said projected contours are adjusted relatively to

3   the image discontinuities.